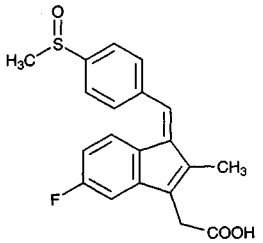
REFERENCE
Fedeli,G.; Moltrasio,D.; Aleotti,M.; Gazzani,G. High-performance liquid chromatographic determination of sulphur and captan in a mixture, *J.Chromatogr.*, **1988**, *447*, 263–267.

Sulindac



Molecular formula: $C_{20}H_{17}FO_3S$
Molecular weight: 356.42
CAS Registry No.: 38194-50-2
Merck Index: 9155
Lednicer No.: 2 210

SAMPLE
Matrix: bile, blood
Sample preparation: Plasma, urine, or bile + 2 mL 1 M HCl + 5 mL chlorobutane:1,2-dichloroethane 80:20, extract, centrifuge. Remove the organic layer and add it to 400 µL 100 mM NaOH, shake for 5 min, centrifuge, inject a 200 µL aliquot of the aqueous layer.

HPLC VARIABLES
Column: µBondapak
Mobile phase: MeCN:200 mM pH 3.5 ammonium phosphate buffer 50:50
Flow rate: 1.6
Injection volume: 200
Detector: UV 254

OTHER SUBSTANCES
Extracted: metabolites

KEY WORDS
plasma; urine; rabbit

REFERENCE
Strong,H.A.; Renwick,A.G.; George,C.F. The site of reduction of sulphinpyrazone in the rabbit, *Xenobiotica*, **1984**, *14*, 815–826.

SAMPLE
Matrix: bile, blood, gastric contents, tissue, urine
Sample preparation: 100 µL Whole blood, bile, liver homogenate, urine, or gastric contents + 100 µL 1 mg/mL ketoprofen + 1 mL 3 M pH 1.5 phosphate buffer + 3 mL chloroform, vortex, rotate for 10 min, centrifuge for 10 min. Remove the organic layer and add it to 1 mL 50 mM NaOH, mix for 5 min, centrifuge for 5 min. Remove the aqueous layer and neutralize it with 1 mL 50 mM phosphoric acid, inject an aliquot.

HPLC VARIABLES
Column: 50 mm long C18
Mobile phase: MeCN:350 mM acetic acid 35:65
Flow rate: 2
Detector: UV 313

CHROMATOGRAM
Internal standard: ketoprofen

KEY WORDS
whole blood; liver

REFERENCE

Singer,P.; Mozayani,A. An overdose fatality in a child involving disopyramide and sulindac, *J.Anal.Toxicol.*, **1995**, *19*, 529–530.

SAMPLE

Matrix: bile, blood, gastric contents, urine

Sample preparation: Plasma. 300 μL Plasma + 40 μL 300 μg/mL indomethacin in borate buffer + 1 mL MeCN, vortex for 30 s, centrifuge at 3500 rpm. Remove the supernatant and evaporate it to 100 μL under a stream of nitrogen at 50°, inject a 20 μL aliquot. Urine, bile, gastric fluid. 300 μL Urine, bile, or gastric fluid + 100 μL 5 M NaOH, let stand at room temperature for 15 min, adjust the pH with 100 μL 28.3% phosphoric acid, add 40 (urine), 25 (bile), or 6 (gastric fluid) μL 300 μg/mL indomethacin in borate buffer, add 1 (urine, bile) or 1.5 (gastric fluid) mL MeCN, vortex for 30 s, centrifuge at 3500 rpm. Remove the supernatant and evaporate it to 100 μL under a stream of nitrogen at 50°, inject a 20 (urine), 35 (bile), or 40 (gastric fluid) μL aliquot. (Borate buffer was 12.4 g boric acid and 10 mL 1 M NaOH made up to 1 L with water, pH 7.2.)

HPLC VARIABLES

Guard column: Microguard reverse-phase (Bio-Rad)

Column: 100 × 8 Radial-PAK C18 in a radial compression module

Mobile phase: MeCN:buffer 70:30 (Buffer was 6.8 g/L KH_2PO_4 adjusted to pH 3.0 with 85% phosphoric acid.)

Flow rate: 2

Injection volume: 20-40

Detector: UV 340

CHROMATOGRAM

Retention time: 6

Internal standard: indomethacin (13)

Limit of quantitation: 500 ng/mL (urine, bile, gastric fluid), 250 ng/mL (plasma)

OTHER SUBSTANCES

Extracted: metabolites

KEY WORDS

plasma; pharmacokinetics

REFERENCE

Musson,D.G.; Vincek,W.C.; Constanzer,M.L.; Detty,T.E. Analytical methods for the determination of sulindac and metabolites in plasma, urine, bile, and gastric fluid by liquid chromatography using ultraviolet detection, *J.Pharm.Sci.*, **1984**, *73*, 1270–1273.

SAMPLE

Matrix: blood

Sample preparation: Mix 500 μL serum with 100 μL 20 mg/mL IS in MeOH:50 mM pH 3.0 sodium phosphate buffer 50:50, vortex for 5 s. Add 1 mL MeCN, vortex for 1 min. Centrifuge the mixture at 14000 rpm for 5 min, decant the clear upper layer. Add 500 μL MeCN to the pellet, mix, centrifuge at 14000 rpm for 5 min. Combine the upper layers and evaporate at 40°. Reconstitute the residue with 300 μL MeOH:50 mM pH 3.0 sodium phosphate buffer 40:60 containing 0.5% sodium metabisulfate (sic). Vortex for 30 s and inject a 20 μL aliquot.

HPLC VARIABLES

Column: 150 × 4.6 5 μm Techsil C18 (HPLC Technology, Macclesfield)

Mobile phase: MeCN:50 mM phosphate buffer 46:63, adjusted to pH 3.0 with NaOH

Flow rate: 1.2

Injection volume: 20

Detector: UV 280

CHROMATOGRAM

Retention time: 4.17

Internal standard: indomethacin (7.17)

Limit of quantitation: 50 ng/mL

OTHER SUBSTANCES
Extracted: metabolites

KEY WORDS
serum; pharmacokinetics

REFERENCE
Kanfer,I.; Brown,C.; Koninigs,M.; Swarbrick,J. Absorption of sulindac from a novel (Pro-SorbTM) liquid formulation, *Biopharm.Drug Dispos.*, **1996**, *17*, 209–221.

SAMPLE
Matrix: blood
Sample preparation: 500 μL Plasma + 250 μL 1 M sulfuric acid + 5 mL 1.7 μg/mL diphenylacetic acid in dichloromethane, vortex for 10 s, centrifuge at 500 g for 5 min. Remove 4 mL of the organic layer and evaporate it to dryness under a stream of nitrogen, reconstitute the residue in 100 μL MeOH, inject a 20 μL aliquot.

HPLC VARIABLES
Column: 250 × 4.6 Zorbax ODS
Mobile phase: Gradient. MeOH:100 mM pH 5 acetate buffer from 51:49 to 80:20 over 3 min, maintain at 80:20 for 6 min.
Column temperature: 40
Flow rate: 1.5
Injection volume: 20
Detector: UV 254

CHROMATOGRAM
Retention time: 17.42
Internal standard: diphenylacetic acid (6.97)
Limit of quantitation: 100 ng/mL

OTHER SUBSTANCES
Extracted: metabolites
Simultaneous: caffeine, carbamazepine, ethosuximide, fenoprofen, ibuprofen, indomethacin, naproxen, phenobarbital, phenytoin, primidone, quinidine, theophylline, tolmetin
Noninterfering: acetaminophen, salicylic acid, valproic acid

KEY WORDS
plasma

REFERENCE
Shimek,J.L.; Rao,N.G.S.; Wahba Khalil,S.K. High performance liquid chromatographic analysis of tolmetin, indomethacin and sulindac in plasma, *J.Liq.Chromatogr.*, **1981**, *4*, 1987–2013.

SAMPLE
Matrix: blood
Sample preparation: 200 μL Plasma + indomethacin + 100 μL pH 2 dilute sulfuric acid + 1 mL MeCN, vortex for 30 s, centrifuge at 2500 rpm for 5 min. Remove the supernatant and evaporate it to dryness under a stream of nitrogen at 40°, reconstitute the residue in 200 μL mobile phase, inject a 10 μL aliquot.

HPLC VARIABLES
Column: 150 × 4.6 5 μm Zorbax CN
Mobile phase: MeCN:4% aqueous acetic acid 45:55
Flow rate: 1
Injection volume: 10
Detector: UV 340

CHROMATOGRAM
Retention time: 4
Internal standard: indomethacin (6)
Limit of quantitation: 630 ng/mL

OTHER SUBSTANCES
Extracted: metabolites

KEY WORDS
plasma

REFERENCE
Clark,C.R.; McMillian,C.L.; Hoke,J.F.; Campagna,K.D.; Ravis,W.R. Liquid chromatographic determination of sulindac and metabolites in serum, *J.Chromatogr.Sci.*, **1987**, *25*, 247–251.

SAMPLE
Matrix: blood
Sample preparation: 500 μL Plasma + 250 μL 2.5 M phosphoric acid + 6 mL 100 ng/mL phenprocoumon in dichloromethane, vortex for 1 min, centrifuge at 1500 g for 10 min. Remove the lower organic layer and evaporate it to dryness under reduced pressure, reconstitute the residue in 200 μL 50 mM NaOH, vortex for 1 min, inject a 75-150 μL aliquot.

HPLC VARIABLES
Column: 300 × 3.9 10 μm phenyl (Waters)
Mobile phase: MeCN:water:glacial acetic acid 42:57:1 containing 10 mM sodium acetate, pH 4.2
Flow rate: 2
Injection volume: 75-150
Detector: UV 315

CHROMATOGRAM
Retention time: 4.2
Internal standard: phenprocoumon (8.6)
Limit of detection: 15 ng/mL

OTHER SUBSTANCES
Extracted: metabolites

KEY WORDS
plasma; pharmacokinetics

REFERENCE
Grgurinovich,N. High-performance liquid chromatography of sulindac and its sulphone and sulphide metabolites in plasma, *J.Chromatogr.*, **1987**, *414*, 211–216.

SAMPLE
Matrix: blood
Sample preparation: Wash a Sep-Pak C18 cartridge with 2 mL MeOH, 5 mL water, and 1 mL 0.25 mM pH 3.0 ammonium phosphate buffer. 20-200 μL Plasma + 100 μL MeOH + 20 μL 50 μg/mL indomethacin in MeOH + 100 μL 0.25 mM pH 3.0 ammonium phosphate buffer + 100 μL water, vortex for 2 min, centrifuge at 1800 g for 10 min. Add the supernatant to the cartridge, wash with 5 mL water, elute twice with 5 mL portions of MeOH. Evaporate eluate to dryness under vacuum, dissolve the residue in 1 mL mobile phase, inject a 20 μL aliquot.

HPLC VARIABLES
Column: 100 × 4.6 5 μm Brownlee RP18
Mobile phase: MeOH:buffer 75:25 (Buffer prepared by diluting 0.25 mM ammonium phosphate buffer adjusted to pH 3.0 with orthophosphoric acid.)
Injection volume: 20
Detector: E ESA Coulochem Model 5100 A, + 0.9 V

CHROMATOGRAM
Retention time: 7.6
Internal standard: indomethacin (14.6)
Limit of detection: 15 ng/mL

OTHER SUBSTANCES
Also analyzed: naproxen, piroxicam, diflunisal

KEY WORDS
plasma; SPE

REFERENCE
Kazemifard,A.G.; Moore,D.E. Liquid chromatography with amperometric detection for the determination of non-steroidal anti-inflammatory drugs in plasma, *J.Chromatogr.*, **1990**, *533*, 125–132.

SAMPLE
Matrix: blood
Sample preparation: Prepare a Sep-Pak C18 SPE cartridge by washing with 2 mL MeOH, 5 mL water, and 1 mL buffer. 20-200 μL Plasma + 100 μL MeOH + 20 μL 50 μg/mL indomethacin in MeOH + 100 μL buffer + 100 μL water, vortex for 2 min, centrifuge at 1800 g for 10 min, apply supernatant to the SPE cartridge, wash with 5 mL water, elute with two 5 mL portions of MeOH, evaporate eluate and take up residue in 1 mL mobile phase. (Buffer was 250 mM ammonium phosphate buffer adjusted to pH 3.0 with orthophosphoric acid.)

HPLC VARIABLES
Column: 100 × 4.6 5 μm Brownlee RP18
Mobile phase: MeOH:25 mM pH 3.0 phosphate buffer 75:25 (Prepare buffer by diluting a 250 mM ammonium phosphate buffer adjusted to pH 3.0 with orthophosphoric acid.)
Injection volume: 20
Detector: E, ESA Coulochem Model 5100 A, +0.9 V

CHROMATOGRAM
Retention time: 7.6
Internal standard: indomethacin (14.6)
Limit of detection: 15 ng/mL

OTHER SUBSTANCES
Simultaneous: naproxen
Interfering: diflunisal

KEY WORDS
plasma; SPE

REFERENCE
Kazemifard,A.G.; Moore,D.E. Liquid chromatography with amperometric detection for the determination of non-steroidal anti-inflammatory drugs in plasma, *J.Chromatogr.*, **1990**, *533*, 125–132.

SAMPLE
Matrix: blood
Sample preparation: Condition a 100 mg Bond Elut C2 SPE cartridge with 1 mL MeOH and 1 mL 100 mM HCl just before use. 500 μL Plasma + 500 μL 100 mM HCl, vortex briefly, add to SPE cartridge, wash with 1 mL 100 mM HCl, elute with 400 μL MeOH:MeCN 60:40, mix, inject a 20 μL aliquot.

HPLC VARIABLES
Guard column: μBondapak C18 RCSS Guard Pak
Column: 100 × 8 4 μm Nova Pak C18 Radial Pak
Mobile phase: MeCN:buffer 42:58 (Buffer was 50 mM sodium citrate adjusted to pH 4.3 with 50 mM HCl.)
Flow rate: 2.3
Injection volume: 20

Detector: UV 342

CHROMATOGRAM
Retention time: 3.07
Internal standard: sulindac

OTHER SUBSTANCES
Extracted: rifampin

KEY WORDS
plasma; sulindac is IS; SPE

REFERENCE
Swart,K.J.; Papgis,M. Automated high-performance liquid chromatographic method for the determination of rifampicin in plasma, *J.Chromatogr.*, **1992**, *593*, 21–24.

SAMPLE
Matrix: blood
Sample preparation: Condition a Bond-Elut C2 SPE cartridge with 1 mL MeOH and 1 mL mobile phase. 1 mL Serum + 75 μL 100 μg/mL indomethacin in MeOH + 1 drop saturated ammonium sulfate solution + 1 drop 1 M HCl, vortex for 3 min, add to the SPE cartridge, wash with six 500 μL portions of wash solvent, elute with four 250 μL aliquots of mobile phase, combine the eluates, vortex, inject a 100 μL aliquot. (Wash solvent was MeCN:water adjusted to pH 3.0 with phosphoric acid 20:80.)

HPLC VARIABLES
Column: 150 × 4.6 5 μm Ultrasphere C8
Mobile phase: MeCN:68 mM pH 2.5 phosphate buffer 55:45
Flow rate: 0.5
Injection volume: 100
Detector: F ex 232 em 335 (filter) following post-column photolysis. The effluent from the column flowed through a 7.9 m × 0.3 mm i.d. coil of PTFE irradiated by an SC3-9 UV lamp (UVP) (cooled with air) to the detector.

CHROMATOGRAM
Retention time: 7
Internal standard: indomethacin (12)
Limit of detection: 10 ng/mL
Limit of quantitation: 50 ng/mL

OTHER SUBSTANCES
Extracted: metabolites

KEY WORDS
serum; post-column photochemical derivatization; SPE

REFERENCE
Siluveru,M.; Stewart,J.T. Determination of sulindac and its metabolites in human serum by reversed-phase high-performance liquid chromatography using on-line post-column ultraviolet irradiation and fluorescence detection, *J.Chromatogr.B*, **1995**, *673*, 91–96.

SAMPLE
Matrix: blood
Sample preparation: 2 mL Whole blood or plasma + 2 mL buffer + 5 mL chloroform:isopropanol: n-heptane 60:14:26, shake gently horizontally for 10 min, centrifuge at 2800 g for 10 min. Remove the lower organic layer and evaporate it to dryness under vacuum at 45°, reconstitute the residue in 100 μL mobile phase, centrifuge at 2800 g for 5 min, inject a 50 μL aliquot of the supernatant. (Buffer was saturated ammonium chloride solution 25% diluted with water, adjusted to pH 9.5 with 25% ammonia solution.)

HPLC VARIABLES

Column: 300 × 3.9 4 μm NovaPack C18
Mobile phase: MeOH:THF:buffer 65:5:30 (Buffer was 0.68 g/L (10 mM (sic)) KH_2PO_4 adjusted to pH 2.6 with concentrated orthophosphoric acid.) (At the end of each session wash the column with water for 1 h and MeOH for 1 h, re-equilibrate for 30 min.)
Column temperature: 30
Flow rate: 0.8
Injection volume: 50
Detector: UV 227

CHROMATOGRAM

Retention time: 4.11
Limit of detection: <120 ng/mL

KEY WORDS

whole blood; plasma; interferences may occur–compounds (all of which are extracted) elute in this order tenoxicam; iproniazid; methocarbamol; methotrexate; caffeine; nialamide; colchicine; cytarabine; benzoylecgonine; acetaminophen; diazoxide; dacarbazine; sulfinpyrazole; flumazenil; sulpride; morphine; atenolol; toloxatone; terbutaline; albuterol; phenobarbital; ranitidine; tiapride; phenol; chlormezanone; aspirin; metformin; ritodrine; codeine; sultopride; amisulpride; naltrexone; lisinopril; benzocaine; nizatidine; nalorphine; mephenesin; naloxone; sotalol; carteolol; procainamide; carbamazepine; bromazepam; nalbuphine; nadolol; procarbazine; dihydralazine; omeprazole; strychnine; acebutolol; glutethimide; chlorpropamide; glipizide; triazolam; prazosin; flunitrazepam; clonazepam; metoclopramide; melphalan; estazolam; tolbutamide; ephedrine; clonidine; pindolol; clobazam; minoxidil; disopyramide; nitrazepam; dextromethorphan; tofisopam; zopiclone; debrisoquine; sulindac; alprazolam; cycloguanil; lorazepam; methaqualone; ketamine; piroxicam; metoprolol; nifedipine; quinine; mephentermine; prilocaine; pentazocine; oxazepam; tiaprofenic acid; quinidine; celiprolol; ajmaline; yohimbine; lidocaine; secobarbital; viloxazine; mepivacaine; meperidine; doxylamine; labetalol; temazepam; amodiaquine; benperidol; droperidol; hydroxychloroquine; zolpidem; ketoprofen; alminoprofen; cicletanine; moclobemide; chloroquine; cocaine; timolol; nomifensine; ticlopidine; acenocoumarol; vindesine; mexiletine; dipyridamole; trazodone; pipamperone; pyrimethamine; benazepril; vincristine; metapramine; chlordiazepoxide; oxprenolol; warfarin; clorazepate; flecainide; phencyclidine; thiopental; fenfluramine; metipranolol; triprolidine; naproxen; buprenorphine; verapamil; buspirone; tianeptine; midazolam; bupivacaine; carbinoxamine; loprazolam; cetirizine; chlorpheniramine; moperone; cibenzoline; medifoxamine; astemizole; vinblastine; nicardipine; bisoprolol; diltiazem; glibornuride; reserpine; aconitine; nitrendipine; diazepam; mianserin; ramipril; haloperidol; tetracaine; alprenolol; acepromethazine; glibenclamide; chlorophenacinone; doxepin; nimodipine; diphenhydramine; cyclizine; histapyrrodine; phenylbutazone; demexiptiline; clozapine; proguanil; trifluperidol; medazepam; cyamemazine; bumadizone; suriclone; propranolol; acepromazine; dothiepin; dextromoramide; fenoprofen; dextropropoxyphene; loxapine; betaxolol; propafenone; promethazine; thioproperazine; methadone; amoxapine; quinupramine; opipramol; cyproheptadine; brompheniramine; mefenidramine; protriptyline; flurbiprofen; tetrazepam; zorubicin; prazepam; alimemazine; loperamide; imipramine; desipramine; levomepromazine; hydroxyzine; niflumic acid; penbutolol; fluvoxamine; pimozide; daunorubicin; indomethacin; maprotiline; tropatenine; etodolac; fluoxetine; amitriptyline; nortriptyline; tioclomarol; diclofenac; mefloquine; trimipramine; chlorambucil; lidoflazine; ibuprofen; floctafenine; alpidem; loratadine; chlorpromazine; clomipramine; carpipramine; thioridazine; fentiazac; clemastine; mefenamic acid; fluphenazine; prochlorperazine; penfluridol; bepridil; terfenadine; trifluoperazine

REFERENCE

Tracqui,A.; Kintz,P.; Mangin,P. Systematic toxicological analysis using HPLC/DAD, *J.Forensic Sci.*, **1995**, *40*, 254–262.

SAMPLE

Matrix: blood
Sample preparation: Condition a 1 mL Bond Elut C2 SPE cartridge with 1 mL MeOH and 1 mL water. 500 μL Plasma + 100 μL 100 mM HCl, vortex briefly, centrifuge at 630 rpm for 5 min, add to the SPE cartridge, wash with 1 mL water, elute with 1 mL MeOH, add the eluate to 500 μL 3 mg/mL ascorbic acid, inject a 150 μL aliquot.

HPLC VARIABLES
Guard column: 15 × 3.2 7 μm RP-8 (Brownlee, ABI)
Column: 250 × 4.6 5 μm Zorbax RX C8
Mobile phase: MeCN:50 mM KH_2PO_4 45:55
Flow rate: 1
Injection volume: 150
Detector: UV 340

CHROMATOGRAM
Retention time: 7.8
Internal standard: sulindac

OTHER SUBSTANCES
Extracted: rifampin
Simultaneous: atevirdine, delavirdine, U-89,255, U-96,183

KEY WORDS
sulindac is IS; plasma; protect from light; SPE

REFERENCE
Lau,Y.Y.; Hanson,G.D.; Carel,B.J. Determination of rifampin in human plasma by high-performance liquid chromatography with ultraviolet detection, *J.Chromatogr.B*, **1996**, *676*, 147–152.

SAMPLE
Matrix: blood
Sample preparation: Condition a 1 mL Bond Elut C8 SPE cartridge with 1 mL MeOH and 1 mL water. Centrifuge 1 mL plasma at 630 rpm for 5 min, add to the SPE cartridge, wash with 1 mL water, elute with 1 mL MeOH. Evaporate the eluate to dryness under a stream of nitrogen, reconstitute the residue in 250 μL mobile phase, inject a 100 μL aliquot.

HPLC VARIABLES
Guard column: 15 × 3.2 RP-8 (Brownlee, ABI)
Column: 250 × 4.6 5 μm Zorbax RX C8
Mobile phase: MeCN:buffer 47:53 (Buffer was 50 mM KH_2PO_4 containing 50 mM sodium acetate, pH adjusted to 4.0 with acetic acid.)
Flow rate: 1
Injection volume: 100
Detector: UV 275

CHROMATOGRAM
Retention time: 6.9
Internal standard: sulindac

OTHER SUBSTANCES
Extracted: rifabutin
Simultaneous: atevirdine, delavirdine, U-89,255, U-96,183

KEY WORDS
plasma; SPE; sulindac is IS

REFERENCE
Lau,Y.Y.; Hanson,G.D.; Carel,B.J. Determination of rifabutin in human plasma by high-performance liquid chromatography with ultraviolet detection, *J.Chromatogr.B*, **1996**, *676*, 125–130.

SAMPLE
Matrix: blood, urine
Sample preparation: Plasma. 500 μL Plasma + 100 μL MeCN:water 80:20 + 100 μL 40 μg/mL indomethacin in MeCN:water 80:20 + 1 mL MeCN, vortex for 10 s, centrifuge at 2000 g for 10 min. Remove the supernatant and add it to 1 mL water, inject a 30 μL aliquot. Urine. 500 μL Urine + 100 μL MeCN:water 80:20 + 100 μL 125 μg/mL indomethacin in MeCN:water 80:20

+ 250 μL Glusulase solution, heat at 37° for 1 h, inject a 25 μL aliquot. (Glusulase solution was 250 μL Glusulase and 500 μL 1 M pH 5.2 sodium acetate in 25 mL water.)

HPLC VARIABLES
Column: 50 × 4.6 3 μm Sepralyte C18 (Analytichem)
Mobile phase: Gradient. MeCN:buffer 34:66 for 3 min, to 70:30 over 2 min, maintain at 70:30 for 1 min, re-equilibrate at initial conditions for 3 min.
Column temperature: 50
Flow rate: 1.5
Injection volume: 25-30
Detector: UV 340

CHROMATOGRAM
Retention time: 4 (plasma), 2.3 (urine)
Internal standard: indomethacin (5.9)
Limit of detection: 200 ng/mL (urine), 100 ng/mL (plasma)

KEY WORDS
plasma

REFERENCE
Stubbs,R.J.; Ng,L.L.; Entwistle,L.A.; Bayne,W.F. Analysis of sulindac and metabolites in plasma and urine by high-performance liquid chromatography, *J.Chromatogr.*, **1987**, *413*, 171–180.

SAMPLE
Matrix: blood, urine
Sample preparation: Plasma. 300 μL Plasma + 1 mL 6 μg/mL indomethacin in MeCN, vortex for 30 s, centrifuge for 5 min. Remove the supernatant and evaporate it to 200 μL under a stream of nitrogen, add 400 μL MeCN:50 mM KH_2PO_4 adjusted to pH 3.0 with phosphoric acid 40:60, vortex, inject an aliquot. Urine. 300 μL Urine + 100 μL 5 M NaOH, vortex, let stand for 15 min at room temperature, add 100 μL phosphoric acid, vortex, add 1 mL 6 μg/mL indomethacin in MeCN, vortex for 30 s, centrifuge for 5 min. Remove the supernatant and evaporate it to 200 μL under a stream of nitrogen, add 400 μL MeCN:50 mM KH_2PO_4 adjusted to pH 3.0 with phosphoric acid 40:60, vortex, inject an aliquot.

HPLC VARIABLES
Column: reverse phase
Mobile phase: Gradient. MeCN:50 mM KH_2PO_4 adjusted to pH 3.0 with phosphoric acid from 40:60 to 60:40 over 10 min.
Detector: UV

CHROMATOGRAM
Retention time: 3.0
Internal standard: indomethacin (6.8)
Limit of detection: 100 ng/mL

OTHER SUBSTANCES
Extracted: metabolites

KEY WORDS
plasma

REFERENCE
Brandli,D.W.; Sarkissian,E.; Ng,S.C.; Paulus,H.E. Individual variability in concentrations of urinary sulindac sulfide, *Clin.Pharmacol.Ther.*, **1991**, *50*, 650–655.

SAMPLE
Matrix: blood, urine
Sample preparation: Add 1 mL whole blood or urine to Toxi-Tube A (Toxi-Lab, Irvine CA), add 3 mL water, mix by gentle inversion for 5 min, centrifuge at 1500 g for 5 min. Remove the organic layer and evaporate it to dryness under a stream of nitrogen at 40°, reconstitute the

residue with 50 μL MeCN:water 50:50, vortex for 10 s, centrifuge at 7500 g for 2 min, inject a 10 (urine) or 30 (blood) μL aliquot. (The detector wavelength shown is the wavelength of maximum absorbance. This will not necessarily be the optimal wavelength for the separation. Multiple wavelengths from 200-350 nm can be scanned using a diode-array detector. Otherwise, 220 nm may be a reasonable choice for initial work. Matrix may interfere.)

HPLC VARIABLES
Guard column: 20 mm long Symmetry C18
Column: 250 × 4.6 5 μm Symmetry C8 (Waters)
Mobile phase: Gradient. A was 50 mM pH 3.8 sodium phosphate buffer. B was MeCN. A:B 85:15 for 6.5 min, 65:35 for 18.5 min, 20:80 for 3 min (step gradient), re-equilibrate at initial conditions for 7 min.
Column temperature: 30
Flow rate: 1 for 6.5 min, to 1.5 over 18.5 min, maintain at 1.5 for 3 min (re-equilibrate at 1.5 mL/min)
Injection volume: 10-30
Detector: UV 200.5

CHROMATOGRAM
Retention time: 16.627

KEY WORDS
whole blood

REFERENCE
Gaillard,Y.; Pépin,G. Use of high-performance liquid chromatography with photodiode-array UV detection for the creation of a 600-compound library. Application to forensic toxicology, *J.Chromatogr.A*, **1997**, *763*, 149–163.

SAMPLE
Matrix: cytosol incubations
Sample preparation: 2 mL Incubation + 2 mL 2 M + 15 μg sulfinpyrazone sulfide + 5 mL chlorobutane:1,2-dichloroethane 80:20, shake for 15 min, centrifuge at 4000 g for 10 min. Remove the upper organic layer and add it to 400 μL 100 mM NaOH, shake for 10 min, inject a 50-80 μL aliquot of the aqueous phase.

HPLC VARIABLES
Column: 300 × 3.9 μBondapak C18
Mobile phase: MeCN:200 mM pH 3.5 ammonium phosphate 47:53
Flow rate: 2.2
Injection volume: 50-80
Detector: UV 254

CHROMATOGRAM
Internal standard: sulfinpyrazone sulfide

OTHER SUBSTANCES
Extracted: metabolites

KEY WORDS
rat; rabbit

REFERENCE
Lee,S.C.; Renwick,A.G. Sulphoxide reduction by rat and rabbit tissues *in vitro*, *Biochem.Pharmacol.*, **1995**, *49*, 1557–1565.

SAMPLE
Matrix: formulations
Sample preparation: Powder tablet, add 100 mL MeOH, stir for 5 min. Remove a 1 mL aliquot and add it to 5 mL 200 μg/mL propyl paraben in MeOH, make up to 25 mL with MeOH, inject a 10 μL aliquot.

HPLC VARIABLES
Column: 70 × 4.6 3 μm Ultrasphere XL ODS
Mobile phase: MeOH:50 mM pH 6.0 acetate buffer 50:50
Flow rate: 1
Injection volume: 10
Detector: UV 280

CHROMATOGRAM
Retention time: 3.5
Internal standard: propyl paraben (7.8)

KEY WORDS
stability-indicating; tablets

REFERENCE
Jalal,I.M.; Khalil,H.S.; Jawhari,D. Stability-indicating assay for sulindac in tablet formulations by reverse-phase HPLC, *J.Liq.Chromatogr.*, **1989**, *12*, 3087–3102.

SAMPLE
Matrix: solutions
Sample preparation: Inject a 6-10 μL aliquot.

HPLC VARIABLES
Guard column: 20 × 4.6 Supelguard LC-1 (Supelco)
Column: 250 × 4.6 5 μm Supelcosil LC-1 (Supelco)
Mobile phase: MeOH:MeCN:buffer 17.5:17.5:65 (Buffer was 2.72 g KH_2PO_4 in 1.9 L water, pH adjusted to 6.3 with about 2 mL 1 M NaOH, made up to 2 L.)
Flow rate: 2
Injection volume: 6-10
Detector: UV 204

CHROMATOGRAM
Retention time: 2.69
Internal standard: 5-ethyl-5-p-tolybarbituric acid (tolybarb) (4.80)

OTHER SUBSTANCES
Simultaneous: acetaminophen, acetanilide, amobarbital, barbital, butabarbital, butalbital, caffeine, carbamazepine, chloramphenicol, cyheptamide, diazoxide, diflunisal, disopyramide, ethchlorvynol, glutethimide, heptabarbital, hexobarbital, ibuprofen, indomethacin, ketoprofen, mefenamic acid, mephenytoin, mephobarbital, methaqualone, methsuximide, methsuximide, methyl salicylate, methyprylon, naproxen, nirvanol, oxphenylbutazone, pentobarbital, phenacetin, phenobarbital, phensuximide, phenytoin, salicylamide, secobarbital, theophylline, thiopental, tolmetin
Noninterfering: N-acetylcysteine, N-acetylprocainamide, amikacin, ampicillin, aspirin, chlorpropamide, codeine, diphylline, gentamicin, gentisic acid, meprobamate, morphine, netilmicin, procainamide, quinidine, salicylic acid, sulfamethoxazole, tetracycline, tobramycin, trimethoprim, valproic acid, vancomycin
Interfering: ethosuximide, cimetidine, primidone, phenylbutazone

REFERENCE
Meatherall,R.; Ford,D. Isocratic liquid chromatographic determination of theophylline, acetaminophen, chloramphenicol, caffeine, anticonvulsants, and barbiturates in serum, *Ther.Drug Monit.*, **1988**, *10*, 101–115.

SAMPLE
Matrix: solutions

HPLC VARIABLES
Column: 250 × 4.6 Zorbax RX
Mobile phase: Gradient. A was 10 mL concentrated orthophosphoric acid and 7 mL triethylamine in 1 L water. B was 10 mL concentrated orthophosphoric acid and 7 mL triethylamine in 200

mL water, make up to 1 L with MeCN. A:B from 100:0 to 0:100 over 30 min, maintain at 0:100 for 5 min.
Column temperature: 30
Flow rate: 2
Detector: UV 210

OTHER SUBSTANCES

Also analyzed: acepromazine, acetaminophen, acetophenazine, albuterol, aminophylline, amitriptyline, amobarbital, amoxapine, amphetamine, amylocaine, antipyrine, aprobarbital, aspirin, atenolol, atropine, avermectin, barbital, benzocaine, benzoic acid, benzotropine, benzphetamine, berberine, bibucaine, bromazepan, brompheniramine, buprenorphine, buspirone, butabarbital, butacaine, butethal, caffeine, carbamazepine, carbromal, chloramphenicol, chlordiazepoxide, chloroquine, chlorothiazide, chloroxylenol, chlorphenesin, chlorpheniramine, chlorpromazine, chlorpropamide, chlortetracycline, cimetidine, cinchonidine, cinchonine, clenbuterol, clonazepam, clonixin, clorazepate, cocaine, codeine, colchicine, cortisone, coumarin, cyclazocine, cyclobenzaprine, cyclothiazide, cyheptamide, cymarin, danazol, danthron, dapsone, debrisoquine, desipramine, dexamethasone, dextromethorphan, dextropropoxyphene, diamorphine, diazepam, diclofenac, diethylpropion, diethylstilbestrol, diflunisal, digitoxin, digoxin, diltiazem, diphenhydramine, diphenoxylate, diprenorphine, dipyrone, disulfiram, dopamine, doxapram, doxepin, dronabinol, ephedrine, epinephrine, epinine, estradiol, estriol, estrone, ethacrynic acid, ethosuximide, etonitazene, etorphine, eugenol, famotidine, fenbendazole, fencamfamine, fenoprofen, fenproporex, fentanyl, flubendazole, flufenamic acid, flunitrazepam, 5-fluorouracil, fluoxymesterone, fluphenazine, furosemide, gentisic acid, gitoxigenin, glipizide, glunixin, glutethimide, glybenclamide, guaiacol, halazepam, haloperidol, hydrochlorothiazide, hydrocodone, hydrocortisone, hydromorphone, hydroxyquinoline, ibogaine, ibuprofen, iminostilbene, imipramine, indomethacin, isocarbostyril, isocarboxazid, isoniazid, isoproterenol, isoxsuprine, ivermectin, ketamine, ketoprofen, kynurenic acid, levorphanol, lidocaine, lorazepam, lormetazepam, loxapine, mazindol, mebendazole, meclizine, meclofenamic acid, medazepam, mefenamic acid, megestrol, mepacrine, meperidine, mephentermine, mephenytoin, mephesin, mephobarbital, mepivacaine, mescaline, mesoridazine, methadone, methamphetamine, methapyrilene, methaqualone, methazolamide, methocarbamol, methoxamine, methsuximide, methyl salicylate, methyldopa, methyldopamine, methylphenidate, methylprednisolone, methyltestosterone, methyprylon, metoprolol, mibolerone, morphine, nadolol, nalorphine, naloxone, naltrexone, naphazoline, naproxen, nefopam, niacinamide, nicotine, niacin, nifedipine, niflumic acid, nitrazepam, norepinephrine, nortriptyline, noscapine, nylidrin, oxazepam, oxycodone, oxymorphone, oxyphenbutazone, oxytetracycline, papaverine, pargyline, pemoline, pentazocine, pentobarbital, persantine, phenacetin, phenazocine, phenazopyridine, phencyclidine, phendimetrazine, phenelzine, pheniramine, phenobarbital, phenothiazine, phensuximide, phentermine, phenylbutazone, phenylephrine, phenylpropanolamine, piperocaine, prazepam, prednisolone, primidone, probenecid, progesterone, propiomazine, propranolol, propylparaben, pseudoephedrine, puromycin, pyrilamine, pyrithyldione, quazepam, quinaldic acid, quinidine, quinine, ranitidine, recinnamine, reserpine, resorcinol, saccharin, albuterol, salicylamide, salicylic acid, scopolamine, scopoletin, secobarbital, strychnine, sulfacetamide, sufadiazine, sulfadimethoxine, sulfaethidole, sulfamerazine, sulfamethazine, sulfamethoxizole, sulfanilamide, sulfapyridine, tamoxifen, temazepam, testosterone, tetracaine, tetracycline, tetramisole, thebaine, theobromine, theophylline, thiabendazole, thiamine, thiamylal, thiobarbituric acid, thioridazine, thiosalicylic acid, thiothixene, thymol, tolazamide, tolazoline, tobutamide, tolmetin, tranylcypromine, triamcinolone, tribenzylamine, trichloromethiazide, trifluoperazine, trihexyphenidyl, trimethoprim, tripelennamine, triprolidine, tropacocaine, tyramine, verapamil, vincamine, warfarin, yohimbine, zoxazolamine

REFERENCE

Hill,D.W.; Kind,A.J. Reversed-phase solvent gradient HPLC retention indexes of drugs, *J.Anal.Toxicol.*, **1994**, *18*, 233–242.

SAMPLE

Matrix: solutions

HPLC VARIABLES

Column: 125 × 3 Ecocart LiChrospher 100 RP-18
Mobile phase: Isopropanol:100 mM KH_2PO_4:formic acid 54:100:0.1
Flow rate: 0.6
Detector: UV 254

CHROMATOGRAM
Retention time: 3.2
Limit of quantitation: 200-500 ng/mL

OTHER SUBSTANCES
Simultaneous: acemetacin; diclofenac; flurbiprofen; indomethacin; lonazolac; ketoprofen; naproxen; piroxicam; tenoxicam

REFERENCE
Baeyens,W.R.G.; Van Der Weken,G.; Van Overbeke,A.; Zhang,Z.D. Preliminary results on the LC-separation of non-steroidal anti-inflammatory agents in conventional and narrow-bore RP set-ups applying columns with different internal diameters, *Biomed.Chromatogr.*, **1995**, *9*, 261–262.

SAMPLE
Matrix: solutions

HPLC VARIABLES
Column: 250 × 4.6 5 μm Supelcosil LC-DP (A) or 250 × 4 5 μm LiChrospher 100 RP-8 (B)
Mobile phase: MeCN:0.025% phosphoric acid:buffer 25:10:5 (A) or 60:25:15 (B) (Buffer was 9 mL concentrated phosphoric acid and 10 mL triethylamine in 900 mL water, adjust pH to 3.4 with dilute phosphoric acid, make up to 1 L.)
Flow rate: 0.6
Injection volume: 25
Detector: UV 229

CHROMATOGRAM
Retention time: 6.17 (A), 5.99 (B)

OTHER SUBSTANCES
Also analyzed: acebutolol, acepromazine, acetaminophen, acetazolamide, acetophenazine, albuterol, alprazolam, amitriptyline, amobarbital, amoxapine, antipyrine, atenolol, atropine, azatadine, baclofen, benzocaine, bromocriptine, brompheniramine, brotizolam, bupivacaine, buspirone, butabarbital, butalbital, caffeine, carbamazepine, cetirizine, chlorcyclizine, chlordiazepoxide, chlormezanone, chloroquine, chlorpheniramine, chlorpromazine, chlorpropamide, chlorprothixene, chlorthalidone, chlorzoxazone, cimetidine, cisapride, clomipramine, clonazepam, clonidine, clozapine, cocaine, codeine, colchicine, cyclizine, cyclobenzaprine, dantrolene, desipramine, diazepam, diclofenac, diflunisal, diltiazem, diphenhydramine, diphenidol, diphenoxylate, dipyridamole, disopyramide, dobutamine, doxapram, doxepin, droperidol, encainide, ethidium bromide, ethopropazine, fenoprofen, fentanyl, flavoxate, fluoxetine, fluphenazine, flurazepam, flurbiprofen, fluvoxamine, furosemide, glutethimide, glyburide, guaifenesin, haloperidol, homatropine, hydralazine, hydrochlorothiazide, hydrocodone, hydromorphone, hydroxychloroquine, hydroxyzine, ibuprofen, imipramine, indomethacin, ketoconazole, ketoprofen, ketorolac, labetalol, levorphanol, lidocaine, loratadine, lorazepam, lovastatin, loxapine, mazindol, mefenamic acid, meperidine, mephenytoin, mepivacaine, mesoridazine, metaproterenol, metformin, methadone, methdilazine, methocarbamol, methotrexate, methotrimeprazine, methoxamine, methyldopa, methylphenidate, metoclopramide, metolazone, metoprolol, metronidazole, midazolam, moclobemide, morphine, nadolol, nalbuphine, naloxone, naphazoline, naproxen, nifedipine, nizatidine, norepinephrine, nortriptyline, oxazepam, oxycodone, oxymetazoline, paroxetine, pemoline, pentazocine, pentobarbital, pentoxifylline, perphenazine, pheniramine, phenobarbital, phenol, phenolphthalein, phentolamine, phenylbutazone, phenyltoloxamine, phenytoin, pimozide, pindolol, piroxicam, pramoxine, prazepam, prazosin, probenecid, procainamide, procaine, prochlorperazine, procyclidine, promazine, promethazine, propafenone, propantheline, propiomazine, propofol, propranolol, protriptyline, quazepam, quinidine, quinine, racemethorphan, ranitidine, remoxipride, risperidone, salicylic acid, scopolamine, secobarbital, sertraline, sotalol, spironolactone, sulfinpyrazone, temazepam, terbutaline, terfenadine, tetracaine, theophylline, thiethylperazine, thiopental, thioridazine, thiothixene, timolol, tocainide, tolbutamide, tolmetin, trazodone, triamterene, triazolam, trifluoperazine, triflupromazine, trimeprazine, trimethoprim, trimipramine, verapamil, warfarin, xylometazoline, yohimbine, zopiclone

KEY WORDS
details of plasma extraction

REFERENCE
Koves,E.M. Use of high-performance liquid chromatography-diode array detection in forensic toxicology, *J.Chromatogr.A*, **1995**, *692*, 103–119.

SAMPLE
Matrix: urine
Sample preparation: Condition a Sep-Pak C18 SPE cartridge with 10 mL ethyl acetate and dry by aspiration of air. Evaporate an aliquot of 100 µL 20 µg/mL IS in MeOH to dryness at 37°. Add 1 mL urine, vortex, add 250 µL 1 M pH 5.0 acetate buffer, vortex. Add 250 µL of the mixture to the SPE cartridge, dry by aspiration of air, elute with 3 mL ethyl acetate, evaporate the eluate to dryness under a stream of nitrogen at 37°, reconstitute the residue in 200 µL mobile phase, inject a 10-30 µL aliquot.

HPLC VARIABLES
Column: 150 × 4.6 5 µm Inertsil ODS-2
Mobile phase: MeCN:50 mM pH 5.0 phosphate buffer 42:58
Flow rate: 0.9
Injection volume: 10-30
Detector: UV 230, UV 320

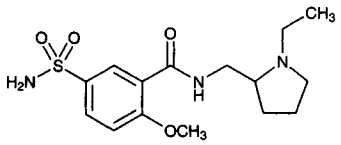
CHROMATOGRAM
Retention time: 4
Internal standard: indomethacin (18.5)
Limit of quantitation: 50 ng/mL

OTHER SUBSTANCES
Extracted: diclofenac, ibuprofen, felbinac, fenbufen, flurbiprofen, ketoprofen, loxoprofen, mefenamic acid, naproxen, piroxicam

KEY WORDS
SPE

REFERENCE
Hirai,T.; Matsumoto,S.; Kishi,I. Simultaneous analysis of several non-steroidal anti-inflammatory drugs in human urine by high-performance liquid chromatography with normal solid-phase extraction, *J.Chromatogr.B*, **1997**, *692*, 375–388.

Sulpiride



Molecular formula: $C_{15}H_{23}N_3O_4S$
Molecular weight: 341.43
CAS Registry No.: 15676-16-1
Merck Index: 9163
Lednicer No.: 2 94

SAMPLE
Matrix: blood
Sample preparation: 2 mL Whole blood or plasma + 2 mL buffer + 5 mL chloroform:isopropanol: n-heptane 60:14:26, shake gently horizontally for 10 min, centrifuge at 2800 g for 10 min. Remove the lower organic layer and evaporate it to dryness under vacuum at 45°, reconstitute the residue in 100 µL mobile phase, centrifuge at 2800 g for 5 min, inject a 50 µL aliquot of the supernatant. (Buffer was saturated ammonium chloride solution 25% diluted with water, adjusted to pH 9.5 with 25% ammonia solution.)

HPLC VARIABLES
Column: 300 × 3.9 4 µm NovaPack C18

Mobile phase: MeOH:THF:buffer 65:5:30 (Buffer was 0.68 g/L (10 mM (sic)) KH_2PO_4 adjusted to pH 2.6 with concentrated orthophosphoric acid.) (At the end of each session wash the column with water for 1 h and MeOH for 1 h, re-equilibrate for 30 min.)
Column temperature: 30
Flow rate: 0.8
Injection volume: 50
Detector: UV 292

CHROMATOGRAM

Retention time: 3.26
Limit of detection: <120 ng/mL

KEY WORDS

whole blood; plasma; interferences may occur–compounds (all of which are extracted) elute in this order tenoxicam; iproniazid; methocarbamol; methotrexate; caffeine; nialamide; colchicine; cytarabine; benzoylecgonine; acetaminophen; diazoxide; dacarbazine; sulfinpyrazole; flumazenil; sulpride; morphine; atenolol; toloxatone; terbutaline; albuterol; phenobarbital; ranitidine; tiapride; phenol; chlormezanone; aspirin; metformin; ritodrine; codeine; sultopride; amisulpride; naltrexone; lisinopril; benzocaine; nizatidine; nalorphine; mephenesin; naloxone; sotalol; carteolol; procainamide; carbamazepine; bromazepam; nalbuphine; nadolol; procarbazine; dihydralazine; omeprazole; strychnine; acebutolol; glutethimide; chlorpropamide; glipizide; triazolam; prazosin; flunitrazepam; clonazepam; metoclopramide; melphalan; estazolam; tolbutamide; ephedrine; clonidine; pindolol; clobazam; minoxidil; disopyramide; nitrazepam; dextromethorphan; tofisopam; zopiclone; debrisoquine; sulindac; alprazolam; cycloguanil; lorazepam; methaqualone; ketamine; piroxicam; metoprolol; nifedipine; quinine; mephentermine; prilocaine; pentazocine; oxazepam; tiaprofenic acid; quinidine; celiprolol; ajmaline; yohimbine; lidocaine; secobarbital; viloxazine; mepivacaine; meperidine; doxylamine; labetalol; temazepam; amodiaquine; benperidol; droperidol; hydroxychloroquine; zolpidem; ketoprofen; alminoprofen; cicletanine; moclobemide; chloroquine; cocaine; timolol; nomifensine; ticlopidine; acenocoumarol; vindesine; mexiletine; dipyridamole; trazodone; pipamperone; pyrimethamine; benazepril; vincristine; metapramine; chlordiazepoxide; oxprenolol; warfarin; clorazepate; flecainide; phencyclidine; thiopental; fenfluramine; metipranolol; triprolidine; naproxen; buprenorphine; verapamil; buspirone; tianeptine; midazolam; bupivacaine; carbinoxamine; loprazolam; cetirizine; chlorpheniramine; moperone; cibenzoline; medifoxamine; astemizole; vinblastine; nicardipine; bisoprolol; diltiazem; glibornuride; reserpine; aconitine; nitrendipine; diazepam; mianserin; ramipril; haloperidol; tetracaine; alprenolol; acepromet azine; glibenclamide; chlorophenacinone; doxepin; nimodipine; diphenhydramine; cyclizine; histapyrrodine; phenylbutazone; demexiptiline; clozapine; proguanil; trifluperidol; medazepam; cyamemazine; bumadizone; suriclone; propranolol; acepromazine; dothiepin; dextromoramide; fenoprofen; dextropropoxyphene; loxapine; betaxolol; propafenone; promethazine; thioproperazine; methadone; amoxapine; quinupramine; opipramol; cyproheptadine; brompheniramine; mefenidramine; protriptyline; flurbiprofen; tetrazepam; zorubicin; prazepam; alimemazine; loperamide; imipramine; desipramine; levomepromazine; hydroxyzine; niflumic acid; penbutolol; fluvoxamine; pimozide; daunorubicin; indomethacin; maprotiline; tropatenine; etodolac; fluoxetine; amitriptyline; nortriptyline; tioclomarol; diclofenac; mefloquine; trimipramine; chlorambucil; lidoflazine; ibuprofen; floctafenine; alpidem; loratadine; chlorpromazine; clomipramine; carpipramine; thioridazine; fentiazac; clemastine; mefenamic acid; fluphenazine; prochlorperazine; penfluridol; bepridil; terfenadine; trifluoperazine

REFERENCE

Tracqui,A.; Kintz,P.; Mangin,P. Systematic toxicological analysis using HPLC/DAD, *J.Forensic Sci.*, **1995**, *40*, 254–262.

SAMPLE

Matrix: blood, urine
Sample preparation: Add 1 mL whole blood or urine to Toxi-Tube A (Toxi-Lab, Irvine CA), add 3 mL water, mix by gentle inversion for 5 min, centrifuge at 1500 g for 5 min. Remove the organic layer and evaporate it to dryness under a stream of nitrogen at 40°, reconstitute the residue with 50 µL MeCN:water 50:50, vortex for 10 s, centrifuge at 7500 g for 2 min, inject a 10 (urine) or 30 (blood) µL aliquot. (The detector wavelength shown is the wavelength of maximum absorbance. This will not necessarily be the optimal wavelength for the separation. Multiple wavelengths from 200-350 nm can be scanned using a diode-array detector. Otherwise, 220 nm may be a reasonable choice for initial work. Matrix may interfere.)

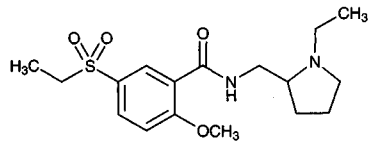
HPLC VARIABLES
Guard column: 20 mm long Symmetry C18
Column: 250 × 4.6 5 μm Symmetry C8 (Waters)
Mobile phase: Gradient. A was 50 mM pH 3.8 sodium phosphate buffer. B was MeCN. A:B 85:15 for 6.5 min, 65:35 for 18.5 min, 20:80 for 3 min (step gradient), re-equilibrate at initial conditions for 7 min.
Column temperature: 30
Flow rate: 1 for 6.5 min, to 1.5 over 18.5 min, maintain at 1.5 for 3 min (re-equilibrate at 1.5 mL/min)
Injection volume: 10-30
Detector: UV 212.2

CHROMATOGRAM
Retention time: 3.858

KEY WORDS
whole blood

REFERENCE
Gaillard,Y.; Pépin,G. Use of high-performance liquid chromatography with photodiode-array UV detection for the creation of a 600-compound library. Application to forensic toxicology, *J.Chromatogr.A*, **1997**, *763*, 149–163.

Sultopride



Molecular formula: $C_{17}H_{26}N_2O_4S$
Molecular weight: 354.47
CAS Registry No.: 53583-79-2, 23694-17-9 (HCl)
Merck Index: 9168

SAMPLE
Matrix: blood
Sample preparation: Mix 1 mL plasma with 4 mL 500 mM NaOH, 2 g NaCl and 1 micro.L 100 μg/mL tiapride in MeOH. Add 10 mL MTBE, shake for 10 min and centrifuge at 850 g for 10 min. Remove the solvent layer, mix with 2.5 mL 100 mM HCl shake and centrifuge at 850 g for 10 min. Remove the aqueous layer, add it to 1 mL 500 mM NaOH, 1.5 g NaCl, and 2 mL MTBE, shake for 10 min and centrifuge. Remove the solvent layer and evaporate to dryness under a stream of nitrogen. Reconstitute the residue in 50 μL MeCN and inject a 10 μL aliquot.

HPLC VARIABLES
Column: 150 × 2.1 5 μm Hypersil silica
Mobile phase: MeCN:100 mM ammonium acetate 94:6
Column temperature: 40
Flow rate: 0.4
Injection volume: 10
Detector: UV 240; MS, Hewlett-Packard Model 59980A, particle beam nebulizer helium 35 psi, solvation chamber 60°, Model 5989A, negative ion chemical ionization mode, reagent gas methane at 1 torr, source 250°, m/z 339

CHROMATOGRAM
Retention time: 12.9
Internal standard: tiapride (11.0)
Limit of quantitation: 5 ng/mL (UV), 10 ng/ml (MS)

KEY WORDS
plasma; pharmacokinetics

REFERENCE

Jitsufuchi,N.; Kudo,K.; Tokunaga,H.; Imamura,T. Selective determination of sultopride in human plasma using high-performance liquid chromatography with ultraviolet detection and particle beam mass spectrometry, *J.Chromatogr.B*, **1997**, *690*, 153–159.

SAMPLE

Matrix: blood

Sample preparation: 2 mL Whole blood or plasma + 2 mL buffer + 5 mL chloroform:isopropanol: n-heptane 60:14:26, shake gently horizontally for 10 min, centrifuge at 2800 g for 10 min. Remove the lower organic layer and evaporate it to dryness under vacuum at 45°, reconstitute the residue in 100 μL mobile phase, centrifuge at 2800 g for 5 min, inject a 50 μL aliquot of the supernatant. (Buffer was saturated ammonium chloride solution 25% diluted with water, adjusted to pH 9.5 with 25% ammonia solution.)

HPLC VARIABLES

Column: 300 × 3.9 4 μm NovaPack C18

Mobile phase: MeOH:THF:buffer 65:5:30 (Buffer was 0.68 g/L (10 mM (sic)) KH_2PO_4 adjusted to pH 2.6 with concentrated orthophosphoric acid.) (At the end of each session wash the column with water for 1 h and MeOH for 1 h, re-equilibrate for 30 min.)

Column temperature: 30

Flow rate: 0.8

Injection volume: 50

Detector: UV 235

CHROMATOGRAM

Retention time: 3.47

Limit of detection: <120 ng/mL

KEY WORDS

whole blood; plasma; interferences may occur–compounds (all of which are extracted) elute in this order tenoxicam; iproniazid; methocarbamol; methotrexate; caffeine; nialamide; colchicine; cytarabine; benzoylecgonine; acetaminophen; diazoxide; dacarbazine; sulfinpyrazole; flumazenil; sulpride; morphine; atenolol; toloxatone; terbutaline; albuterol; phenobarbital; ranitidine; tiapride; phenol; chlormezanone; aspirin; metformin; ritodrine; codeine; sultopride; amisulpride; naltrexone; lisinopril; benzocaine; nizatidine; nalorphine; mephenesin; naloxone; sotalol; carteolol; procainamide; carbamazepine; bromazepam; nalbuphine; nadolol; procarbazine; dihydralazine; omeprazole; strychnine; acebutolol; glutethimide; chlorpropamide; glipizide; triazolam; prazosin; flunitrazepam; clonazepam; metoclopramide; melphalan; estazolam; tolbutamide; ephedrine; clonidine; pindolol; clobazam; minoxidil; disopyramide; nitrazepam; dextromethorphan; tofisopam; zopiclone; debrisoquine; sulindac; alprazolam; cycloguanil; lorazepam; methaqualone; ketamine; piroxicam; metoprolol; nifedipine; quinine; mephentermine; prilocaine; pentazocine; oxazepam; tiaprofenic acid; quinidine; celiprolol; ajmaline; yohimbine; lidocaine; secobarbital; viloxazine; mepivacaine; meperidine; doxylamine; labetalol; temazepam; amodiaquine; benperidol; droperidol; hydroxychloroquine; zolpidem; ketoprofen; alminoprofen; cicletanine; moclobemide; chloroquine; cocaine; timolol; nomifensine; ticlopidine; acenocoumarol; vindesine; mexiletine; dipyridamole; trazodone; pipamperone; pyrimethamine; benazepril; vincristine; metapramine; chlordiazepoxide; oxprenolol; warfarin; clorazepate; flecainide; phencyclidine; thiopental; fenfluramine; metipranolol; triprolidine; naproxen; buprenorphine; verapamil; buspirone; tianeptine; midazolam; bupivacaine; carbinoxamine; loprazolam; cetirizine; chlorpheniramine; moperone; cibenzoline; medifoxamine; astemizole; vinblastine; nicardipine; bisoprolol; diltiazem; glibornuride; reserpine; aconitine; nitrendipine; diazepam; mianserin; ramipril; haloperidol; tetracaine; alprenolol; acepromazine; glibenclamide; chlorophenacinone; doxepin; nimodipine; diphenhydramine; cyclizine; histapyrrodine; phenylbutazone; demexiptiline; clozapine; proguanil; trifluperidol; medazepam; cyamemazine; bumadizone; suriclone; propranolol; acepromazine; dothiepin; dextromoramide; fenoprofen; dextropropoxyphene; loxapine; betaxolol; propafenone; promethazine; thioproperazine; methadone; amoxapine; quinupramine; opipramol; cyproheptadine; brompheniramine; mefenidramine; protriptyline; flurbiprofen; tetrazepam; zorubicin; prazepam; alimemazine; loperamide; imipramine; desipramine; levomepromazine; hydroxyzine; niflumic acid; penbutolol; fluvoxamine; pimozide; daunorubicin; indomethacin; maprotiline; tropatenine; etodolac; fluoxetine; amitriptyline; nortriptyline; tioclomarol; diclofenac; mefloquine; trimipramine; chlorambucil; lidoflazine; ibuprofen; floctafenine; alpidem; loratadine; chlorpromazine; clomipramine; carpipramine; thioridazine; fentiazac; clemastine; mefenamic acid; fluphenazine; prochlorperazine; penfluridol; bepridil; terfenadine; trifluoperazine

REFERENCE
Tracqui,A.; Kintz,P.; Mangin,P. Systematic toxicological analysis using HPLC/DAD, *J.Forensic Sci.*, **1995**, *40*, 254–262.

SAMPLE
Matrix: blood, urine
Sample preparation: Add 1 mL whole blood or urine to Toxi-Tube A (Toxi-Lab, Irvine CA), add 3 mL water, mix by gentle inversion for 5 min, centrifuge at 1500 g for 5 min. Remove the organic layer and evaporate it to dryness under a stream of nitrogen at 40°, reconstitute the residue with 50 μL MeCN:water 50:50, vortex for 10 s, centrifuge at 7500 g for 2 min, inject a 10 (urine) or 30 (blood) μL aliquot. (The detector wavelength shown is the wavelength of maximum absorbance. This will not necessarily be the optimal wavelength for the separation. Multiple wavelengths from 200-350 nm can be scanned using a diode-array detector. Otherwise, 220 nm may be a reasonable choice for initial work. Matrix may interfere.)

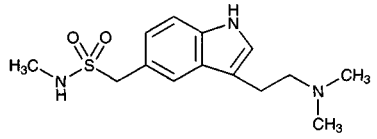
HPLC VARIABLES
Guard column: 20 mm long Symmetry C18
Column: 250 × 4.6 5 μm Symmetry C8 (Waters)
Mobile phase: Gradient. A was 50 mM pH 3.8 sodium phosphate buffer. B was MeCN. A:B 85:15 for 6.5 min, 65:35 for 18.5 min, 20:80 for 3 min (step gradient), re-equilibrate at initial conditions for 7 min.
Column temperature: 30
Flow rate: 1 for 6.5 min, to 1.5 over 18.5 min, maintain at 1.5 for 3 min (re-equilibrate at 1.5 mL/min)
Injection volume: 10-30
Detector: UV 212.2

CHROMATOGRAM
Retention time: 13.012

KEY WORDS
whole blood

REFERENCE
Gaillard,Y.; Pépin,G. Use of high-performance liquid chromatography with photodiode-array UV detection for the creation of a 600-compound library. Application to forensic toxicology, *J.Chromatogr.A*, **1997**, *763*, 149–163.

Sumatriptan



Molecular formula: $C_{14}H_{21}N_3O_2S$
Molecular weight: 295.41
CAS Registry No.: 103628-46-2, 103628-48-4 (succinate)
Merck Index: 9172
Lednicer No.: 5 108

SAMPLE
Matrix: blood
Sample preparation: Condition a 50 mg Isolute CBA SPE cartridge (Hengoed, UK) with full column volumes of MeOH and water. Apply 1 mL plasma to SPE cartridge, wash with two column volumes of water. Dry SPE cartridge under vacuum. Elute with one column volume of 1% ammonia in MeOH. Evaporate eluate to dryness under vacuum at 50°, reconstitute the residue in 150 μL mobile phase, vortex, inject an aliquot.

HPLC VARIABLES
Guard column: Brownlee Newguard C2 (Anachem, UK)
Column: 100 × 4 5 μm cyano-propyl column (Capitol HPLC, UK)

Mobile phase: MeOH:40 mM pH 5.3 potassium phosphate buffer 60:40
Flow rate: 1
Injection volume: 50
Detector: E, ESA Coulochem 2, Model 5020 guard cell, Model 5011 analytical cell, detector 1 + 450 mV, detector 2 + 850 mV, guard cell + 900 mV

CHROMATOGRAM
Retention time: 6.1
Internal standard: sumatriptan succinate

OTHER SUBSTANCES
Extracted: naloxone

KEY WORDS
plasma; SPE; sumatriptan is IS

REFERENCE
Franklin,M.; Odontiadis,J. Determination of naloxone in human plasma by high-performance liquid chromatography with coulometric determination, *J.Chromatogr.B*, **1996**, *679*, 199–203.

SAMPLE
Matrix: blood
Sample preparation: Condition a 3 mL Lichrolut C18-Select B SPE cartridge with 3 mL MeOH and 3 mL water. Mix 100 or 300 μL plasma with 500 μL 40 ng/mL IS in MeOH:water 50:50, add 800 μL MeOH, vortex, centrifuge at 15000 rpm for 10 min. Evaporate the supernatant to dryness under a stream of nitrogen at 40°, reconstitute the sample in 1 mL MeOH:water 10:90. Add 1 mL of the sample to the SPE cartridge, wash with 5 mL water, wash with 3 mL MeOH:water 20:80, elute with 2 mL MeCN containing 10% 1 M HCl, evaporate the eluate to dryness under a stream of nitrogen at 40°, reconstitute the residue in 300 μL mobile phase, inject a 30 μL aliquot.

HPLC VARIABLES
Column: 150 × 2 4 μm Nova-Pak C8
Mobile phase: Gradient. A was MeCN:20 mM ammonium acetate 10:90. B was MeCN:20 mM ammonium acetate 80:20. A:B from 80:20 to 20:80 over 20 min, re-equilibrate at initial conditions for 10 min
Column temperature: 35
Flow rate: 0.5
Injection volume: 30
Detector: MS, Finnigan MAT SSQ-700 or TSQ-7000, API, ESI, 4.8 kV needle, +5.8 V to the capillary, +44.6 V to the tube lens, source 230°, m/z 339

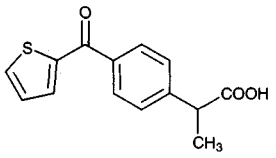
CHROMATOGRAM
Internal standard: MDL 74,967

OTHER SUBSTANCES
Extracted: MDL 74,721, naratriptan

KEY WORDS
plasma; rabbit; SPE; pharmacokinetics

REFERENCE
Duléry,B.D.; Petty,M.A.; Schoun,J.; David,M.; Huebert,N.D. A method using a liquid chromatographic-electrospray-mass spectrometric assay for the determination of antimigraine compounds: preliminary pharmacokinetics of MDL 74,721, sumatriptan and naratriptan, in rabbit, *J.Pharm.Biomed.Anal.*, **1997**, *15*, 1009–1020.

Suprofen



Molecular formula: $C_{14}H_{12}O_3S$
Molecular weight: 260.31
CAS Registry No.: 40828-46-4
Merck Index: 9180
Lednicer No.: 2 65

SAMPLE

Matrix: blood
Sample preparation: Adjust pH of plasma to 3 with phosphoric acid. 100 µL Plasma + 300 µL IS in MeCN, mix, centrifuge. Remove the supernatant and evaporate it to dryness under a stream of nitrogen, reconstitute the residue in 300 µL MeCN:water 25:75, inject an aliquot.

HPLC VARIABLES

Guard column: 15 × 2.1 C18 (Brownlee)
Column: 150 × 4 5 µm Axxiom C18
Mobile phase: MeOH:10 mM pH 5.1 sodium acetate 37.5:62.5
Flow rate: 1
Detector: UV 295

CHROMATOGRAM

Retention time: 12.9
Internal standard: 5-(4-methoxybenzoyl)-1,4-dimethyl-1H-pyrrole-2-acetic acid (MCN 2967, R.W. Johnson) (11.1)
Limit of detection: 100 ng/mL

OTHER SUBSTANCES

Extracted: metabolites, glucuronides

KEY WORDS

cow; plasma

REFERENCE

Smith,P.C.; Liu,J.H. Covalent binding of suprofen acyl glucuronide to albumin *in vitro*, *Xenobiotica*, **1993**, *23*, 337–348.

SAMPLE

Matrix: bulk
Sample preparation: Prepare a 400 µg/mL solution in MeCN:water 30:70, inject an aliquot.

HPLC VARIABLES

Column: 250 × 4.6 5 µm Cyclobond I β-cyclodextrin (Advanced Separation Technologies)
Mobile phase: MeCN:buffer 30:70 (Buffer was 1 mL/L triethylamine in water adjusted to pH 4.5 ± 0.1 with glacial acetic acid.)
Column temperature: 35
Flow rate: 2
Detector: UV 254

CHROMATOGRAM

Retention time: 12
Limit of detection: 0.04% (of major isomer)

OTHER SUBSTANCES

Simultaneous: positional isomers

REFERENCE

Marziani,F.C.; Sisco,W.R. Liquid chromatographic separation of positional isomers of suprofen on a cyclodextrin-bonded phase, *J.Chromatogr.*, **1989**, *465*, 422–428.

SAMPLE

Matrix: cell suspensions

Sample preparation: Centrifuge cell suspension at 2000 g for 4 min. Remove a 2 mL aliquot of the supernatant and add it to 200 μL 200 μg/mL IS in DMF, mix, add 200 μL 5 M HCl, extract twice with 3 mL portions of toluene. Combine the organic layers and evaporate them to dryness under a stream of nitrogen, reconstitute the residue in 1 mL dichloromethane, add 20 μL 10 mg/mL 1-hydroxybenzotriazole in dichloromethane:pyridine 99:1, add 300 μL 10 mg/mL 1-(3-dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride in dichloromethane, add 300 μL 10 mg/mL (-)-(S)-α-methylbenzylamine in dichloromethane, let stand for 30 min, evaporate to dryness, reconstitute with 500 μL mobile phase, inject a 10 μL aliquot.

HPLC VARIABLES

Guard column: 10 mm long Techsphere ODS (HPLC Technology, Macclesfield UK)
Column: 250 × 5 5 μm Techsphere ODS (HPLC Technology, Macclesfield UK)
Mobile phase: MeCN:7.5 mM NaH_2PO_4 50:50, containing 5 mM sodium pentanesulfonate, pH adjusted to 2.8 with phosphoric acid
Flow rate: 1
Injection volume: 10
Detector: UV 254

CHROMATOGRAM

Retention time: k' 5.65, 6.40 (enantiomers)
Internal standard: (S)-naproxen (k' 7.45)
Limit of detection: 500 ng/mL

KEY WORDS

derivatization; chiral

REFERENCE

Thomason,M.J.; Hung,Y.-F.; Rhys-Williams,W.; Hanlon,G.W.; Lloyd,A.W. Indirect enantiomeric separation of 2-arylpropionic acids and structurally related compounds by reversed phase HPLC, *J.Pharm.Biomed.Anal.*, **1997**, *15*, 1765–1774.

SAMPLE

Matrix: solutions

HPLC VARIABLES

Column: 150 × 4.5 5 μm Ultrasphere octyl
Mobile phase: MeCN:triethylamine:1.65% glacial acetic acid 505:0.65:495, pH 4.35
Column temperature: 30
Flow rate: 1
Injection volume: 20
Detector: UV 280

CHROMATOGRAM

Retention time: 3.22
Internal standard: naproxen (3.89)

OTHER SUBSTANCES

Simultaneous: bacitracin, diazepam, diclofenac, flurbiprofen, hydrocortisone acetate, imipramine, indomethacin, ketoprofen, ketorolac tromethamine, levobunolol, meclofenamic acid, metipranolol, neomycin, proparacaine, propranolol, salicylic acid, sulfacetamide
Noninterfering: acebutolol, acetaminophen, acetazolamide, alprenolol, apraclonidine, atenolol, atropine, betamethasone, betaxolol, bupivacaine, caffeine, cyclopentolate, dexamethasone, diphenhydramine, erythromycin, haloperidol, lidocaine, phenylephrine, polymyxin B, procaine, scopolamine, timolol, tropicamide
Interfering: cortisone acetate, fluorometholone, prednisolone acetate

REFERENCE

Riegel,M.; Ellis,P.P. High-performance liquid chromatography assay for antiinflammatory agents diclofenac and flurbiprofen in ocular fluids, *J.Chromatogr.B*, **1994**, *654*, 140–145.

SAMPLE
Matrix: solutions
Sample preparation: Prepare a 100 μM solution in buffer, inject a 20 μL aliquot.

HPLC VARIABLES
Column: 100 × 4.6 column containing riboflavin binding proteins (Prepare as follows. Add riboflavin to saturate protein of egg yolk, homogenize with 3 volumes buffer, centrifuge, add the supernatant to a 500 × 30 column of DEAE-cellulose (Whatman) equilibrated with buffer, wash extensively with buffer to remove bound protein, elute riboflavin binding proteins (RFBP) with buffer containing 200 mM NaCl (RFBP has intense yellow color, absorption at 455 nm). Purify RFBP on a Sephadex G-100 column with 50 mM pH 7.5 Tris-HCl buffer as eluent, remove the bound riboflavin by extensive dialysis at pH 3.0. Add 4.5 g N,N-disuccinylimidyl carbonate to 3 g Nucleosil 5NH2 slurried in MeCN, filter, wash with MeCN, wash with 50 mM pH 7.5 phosphate buffer. Suspend 300 mg RFBP in 50 mM phosphate buffer, add the activated silica, mix gently for 2 h using a rotary evaporator, filter, wash with sterile water, wash with isopropanol:water 1:2, pack in a 100 × 4.6 column.) (Buffer was 100 mM pH 5.3 sodium acetate.)
Mobile phase: 50 mM pH 5.5 KH_2PO_4
Flow rate: 0.8
Injection volume: 20
Detector: UV

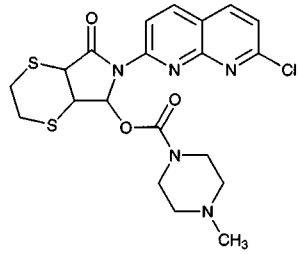
CHROMATOGRAM
Retention time: k' 8.27

OTHER SUBSTANCES
Simultaneous: flurbiprofen, isradipine, ketoprofen, nimodipine

KEY WORDS
chiral; α = 1.08

REFERENCE
Massolini,G.; De Lorenzi,E.; Ponci,M.C.; Gandini,C.; Caccialanza,G.; Monaco,H.L. Egg yolk riboflavin binding protein as a new chiral stationary phase in high-performance liquid chromatography, *J.Chromatogr.A*, **1995**, *704*, 55–65.

Suriclone



Molecular formula: $C_{20}H_{20}ClN_5O_3S_2$
Molecular weight: 478.00
CAS Registry No.: 53813-83-5
Merck Index: 9182

SAMPLE
Matrix: blood
Sample preparation: 2 mL Whole blood or plasma + 2 mL buffer + 5 mL chloroform:isopropanol: n-heptane 60:14:26, shake gently horizontally for 10 min, centrifuge at 2800 g for 10 min. Remove the lower organic layer and evaporate it to dryness under vacuum at 45°, reconstitute the residue in 100 μL mobile phase, centrifuge at 2800 g for 5 min, inject a 50 μL aliquot of the supernatant. (Buffer was saturated ammonium chloride solution 25% diluted with water, adjusted to pH 9.5 with 25% ammonia solution.)

HPLC VARIABLES
Column: 300 × 3.9 4 μm NovaPack C18
Mobile phase: MeOH:THF:buffer 65:5:30 (Buffer was 0.68 g/L (10 mM (sic)) KH_2PO_4 adjusted to pH 2.6 with concentrated orthophosphoric acid.) (At the end of each session wash the column with water for 1 h and MeOH for 1 h, re-equilibrate for 30 min.)

Column temperature: 30
Flow rate: 0.8
Injection volume: 50
Detector: UV 244

CHROMATOGRAM

Retention time: 6.74
Limit of detection: <120 ng/mL

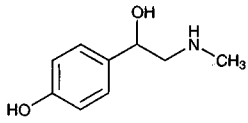
KEY WORDS

whole blood; plasma; interferences may occur–compounds (all of which are extracted) elute in this order tenoxicam; iproniazid; methocarbamol; methotrexate; caffeine; nialamide; colchicine; cytarabine; benzoylecgonine; acetaminophen; diazoxide; dacarbazine; sulfinpyrazole; flumazenil; sulpride; morphine; atenolol; toloxatone; terbutaline; albuterol; phenobarbital; ranitidine; tiapride; phenol; chlormezanone; aspirin; metformin; ritodrine; codeine; sultopride; amisulpride; naltrexone; lisinopril; benzocaine; nizatidine; nalorphine; mephenesin; naloxone; sotalol; carteolol; procainamide; carbamazepine; bromazepam; nalbuphine; nadolol; procarbazine; dihydralazine; omeprazole; strychnine; acebutolol; glutethimide; chlorpropamide; glipizide; triazolam; prazosin; flunitrazepam; clonazepam; metoclopramide; melphalan; estazolam; tolbutamide; ephedrine; clonidine; pindolol; clobazam; minoxidil; disopyramide; nitrazepam; dextromethorphan; tofisopam; zopiclone; debrisoquine; sulindac; alprazolam; cycloguanil; lorazepam; methaqualone; ketamine; piroxicam; metoprolol; nifedipine; quinine; mephentermine; prilocaine; pentazocine; oxazepam; tiaprofenic acid; quinidine; celiprolol; ajmaline; yohimbine; lidocaine; secobarbital; viloxazine; mepivacaine; meperidine; doxylamine; labetalol; temazepam; amodiaquine; benperidol; droperidol; hydroxychloroquine; zolpidem; ketoprofen; alminoprofen; cicletanine; moclobemide; chloroquine; cocaine; timolol; nomifensine; ticlopidine; acenocoumarol; vindesine; mexiletine; dipyridamole; trazodone; pipamperone; pyrimethamine; benazepril; vincristine; metapramine; chlordiazepoxide; oxprenolol; warfarin; clorazepate; flecainide; phencyclidine; thiopental; fenfluramine; metipranolol; triprolidine; naproxen; buprenorphine; verapamil; buspirone; tianeptine; midazolam; bupivacaine; carbinoxamine; loprazolam; cetirizine; chlorpheniramine; moperone; cibenzoline; medifoxamine; astemizole; vinblastine; nicardipine; bisoprolol; diltiazem; glibornuride; reserpine; aconitine; nitrendipine; diazepam; mianserin; ramipril; haloperidol; tetracaine; alprenolol; acepromethazine; glibenclamide; chlorophenacinone; doxepin; nimodipine; diphenhydramine; cyclizine; histapyrrodine; phenylbutazone; demexiptiline; clozapine; proguanil; trifluperidol; medazepam; cyamemazine; bumadizone; suriclone; propranolol; acepromazine; dothiepin; dextromoramide; fenoprofen; dextropropoxyphene; loxapine; betaxolol; propafenone; promethazine; thioproperazine; methadone; amoxapine; quinupramine; opipramol; cyproheptadine; brompheniramine; mefenidramine; protriptyline; flurbiprofen; tetrazepam; zorubicin; prazepam; alimemazine; loperamide; imipramine; desipramine; levomepromazine; hydroxyzine; niflumic acid; penbutolol; fluvoxamine; pimozide; daunorubicin; indomethacin; maprotiline; tropatenine; etodolac; fluoxetine; amitriptyline; nortriptyline; tioclomarol; diclofenac; mefloquine; trimipramine; chlorambucil; lidoflazine; ibuprofen; floctafenine; alpidem; loratadine; chlorpromazine; clomipramine; carpipramine; thioridazine; fentiazac; clemastine; mefenamic acid; fluphenazine; prochlorperazine; penfluridol; bepridil; terfenadine; trifluoperazine

REFERENCE

Tracqui,A.; Kintz,P.; Mangin,P. Systematic toxicological analysis using HPLC/DAD, *J.Forensic Sci.*, **1995**, *40*, 254–262.

Synephrine



Molecular formula: $C_9H_{13}NO_2$
Molecular weight: 167.21
CAS Registry No.: 94-07-5, 5985-28-4 (HCl), 6414-49-9 (tartaric acid monoester), 16589-24-5 (tartrate)
Merck Index: 9189

SAMPLE

Matrix: blood, urine
Sample preparation: Add 1 mL whole blood or urine to Toxi-Tube A (Toxi-Lab, Irvine CA), add 3 mL water, mix by gentle inversion for 5 min, centrifuge at 1500 g for 5 min. Remove the organic layer and evaporate it to dryness under a stream of nitrogen at 40°, reconstitute the residue with 50 µL MeCN:water 50:50, vortex for 10 s, centrifuge at 7500 g for 2 min, inject a 10 (urine) or 30 (blood) µL aliquot. (The detector wavelength shown is the wavelength of maximum absorbance. This will not necessarily be the optimal wavelength for the separation. Multiple wavelengths from 200-350 nm can be scanned using a diode-array detector. Otherwise, 220 nm may be a reasonable choice for initial work. Matrix may interfere.)

HPLC VARIABLES

Guard column: 20 mm long Symmetry C18
Column: 250 × 4.6 5 µm Symmetry C8 (Waters)
Mobile phase: Gradient. A was 50 mM pH 3.8 sodium phosphate buffer. B was MeCN. A:B 85:15 for 6.5 min, 65:35 for 18.5 min, 20:80 for 3 min (step gradient), re-equilibrate at initial conditions for 7 min.
Column temperature: 30
Flow rate: 1 for 6.5 min, to 1.5 over 18.5 min, maintain at 1.5 for 3 min (re-equilibrate at 1.5 mL/min)
Injection volume: 10-30
Detector: UV 200.5

CHROMATOGRAM

Retention time: 3.02

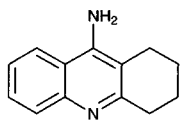
KEY WORDS

whole blood

REFERENCE

Gaillard,Y.; Pépin,G. Use of high-performance liquid chromatography with photodiode-array UV detection for the creation of a 600-compound library. Application to forensic toxicology, *J.Chromatogr.A*, **1997**, *763*, 149–163.

Tacrine



Molecular formula: $C_{13}H_{14}N_2$
Molecular weight: 198.27
CAS Registry No.: 321-64-2, 1684-40-8 (HCl)
Merck Index: 9199
Lednicer No.: 5 166

SAMPLE

Matrix: bile, dialysate
Sample preparation: Bile. 100 µL Bile + 50 µL 500 mM NaOH, vortex for 1 min, add 500 µL ethyl acetate, vortex for 2 min, centrifuge at 12000 g for 30 s. Remove the organic layer and evaporate it to dryness under a stream of argon at 55°, reconstitute the residue in 100 µL